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09/670,113	09/26/2000	William Y. Conwell	60299	4862
23735 7590 10/17/2007 DIGIMARC CORPORATION 9405 SW GEMINI DRIVE BEAVERTON, OR 97008				
			EXAMINER GORADIA, SHEFALI DINESH	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/670,113
Filing Date: September 26, 2000
Appellant(s): CONWELL, WILLIAM Y.

William Y. Conwell
(Reg. No., 31,943)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 05-11-2006 appealing from the Office action
mailed November 15, 2005.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,506,697	Li et al.	04-1996
6,747,687	Alves	06-2004
6,799,302	Sites	09-2004
6,801,999	Venkatesan	10-2004
6,373,960	Conover et al.	04-2002

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(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

- A. Claims 3, 5, 16, 18-20 and 23 stand rejected under § 102 over Li (5,506,697).
- B. Claims 8, 9, 22 and 24 stand rejected under § 103 over Alves (6,747,687) in view of Li.
- C. Claims 10-15 stand rejected under § 103 over Sites (6,799,302) in view of Li.
- D. Claim 17 stands rejected under § 103 over Li in view of Venkatesan (6,801,999).
- E. Claim 25 stands rejected under § 103 over Alves in view of Li, and further in view of Conover (6,373,960).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 3, 5, 16, 18-20, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Li et al. (hereinafter, “Li”) (US 5,506,697).

With regard to **claim 3** Li discloses a method (using a system of Figure 3, col. 7 lines 46 to col. 8 lines 1-3) comprising: receiving data corresponding to an image, the image including a depiction text (Fig. 3 element 40); recognizing at least some of said depicted text (Fig. 3 element 47, col. 7 line 50); and encoding a watermark in said image (Fig. 3 element 45), said watermark serving to associate said image with said recognized text (col. 7 line 59, col. 8 lines 1-3).

With regard to **claim 5** Li discloses the method of claim 3 in which said recognizing includes recognizing by an automated OCR process (converts alphanumeric text into a highly compressed coded symbol at col. 7 line 50).

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With regard to **claim 16** Li discloses an apparatus (figure 3) comprising: a scanner for producing scan data corresponding to an original document (elements 40 and 42, Figure 3); an OCR engine for recognizing text from said scan data (converts alphanumeric text into a highly compressed coded symbol at col. 7 line 50); and a watermaker that alters an output from said apparatus to encode a watermark therein, the watermark serving to associate said output with said stored text (application data source 64, col. 9 lines 18-34).

With regard to **claim 18** Li discloses output comprising a hardcopy page (element 46 and 66, Figure 3), and watermark serves to directly encode at least a portion of said recognized text in the output (element 45/56b figure 3).

With regard to **claim 19** Li discloses a storing device for data repository at col. 9 lines 3-16.

With regard to **claim 20** Li discloses encoding at 47 in Figure 3.

With regard to **claim 23** Li discloses encoding follows recognizing as seen in Figure 3, first scanning and recognizing at element 42 and then encoding at element 47.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-9, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alves (US 6,747,687) in view of Li et al. (hereinafter, "Li") (US 5,506,697).

With regard to **claim 8** Alves discloses a method of augmenting image data collected by a security camera (Figure 1, col. 5 lines 57 to col. 6 lines 1-2), comprising: analyzing a frame of image data from said security monitoring camera for text information depicted therein (analyzing images of

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entering/exiting vehicle by a video camera 104/116, respectively at col. 2 lines 56 to col. 3 lines 1-12 with text information about the license plate number, color, trim, style, etc. of the vehicle). Alves does not expressly disclose digitally watermarking image data wherein said watermark associates the image data with the text information. Li discloses this at Figure 3 element 45 and col. 7 lines 59 to col. 8 lines 1-3. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Alves with Li. The motivation for doing so is to authenticate the document by encoding and digitally embedding element 45 into document 50 as seen in Figure 3 and suggested throughout the invention of Li. Therefore, it would have been obvious to combine Li with Alves to obtain the invention as specified in claim 8.

With regard to **claim 9** Alves discloses having the frame of image data including a depiction of a vehicle license plate and said text information comprises text on said license plate (col. 3 lines 4-12).

With regard to **claim 22** Li discloses a storing device for data repository at col. 9 lines 3-16.

With regard to **claim 24** Li discloses analyzing comprising performing an OCR process on said depicted text information (converts alphanumeric text into a highly compressed coded symbol at col. 7 line 50).

5. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sites (US 6,799,302) in view of Li et al. (hereinafter, "Li") (US 5,506,697).

With regard to **claim 10** Sites discloses a method comprising receiving an electronic document, the document comprising a graphical representation of text, but not including ASCII data corresponding thereto (Figure 1 element 102, col. 2 lines 31-36 where the document is disclosed as a PDF file); analyzing said document for text information using an OCR process (user prints the document after receiving at col. 3 lines 19-36). Sites discloses having the PDF/PDL file include watermark information at col. 2 lines 41-45. However, Sites does not disclose digitally watermarking electronic document

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wherein the digital watermark associates the electronic document with the text information. Li discloses this at Figure 3 element 45 and col. 7 lines 59 to col. 8 lines 1-3; col. 10 lines 43-49. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Sites with Li. The motivation for doing so is to authenticate the electronic document by encoding and digitally embedding element 45 into document 50 as seen in Figure 3 and suggested throughout the invention of Li. Therefore, it would have been obvious to combine Li with Sites to obtain the invention as specified in claim 10.

With regard to **claim 11** Li discloses document comprising FAX data at 52, 54, and 69 in Figure 3. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Sites with Li. The motivation for doing so is to have FAX data instead of PDF to transmit the data via FAX to a different party rather than printing the document. Therefore, it would have been obvious to combine Li with Sites to obtain the invention as specified in claim 11.

With regard to **claim 12** Sites discloses PDF document at col. 2 lines 34-35.

With regard to **claim 13** Li discloses scanning a paper document on a platen, and producing graphical data corresponding thereto at 40 and 42 in Figure 3.

With regard to **claim 14** Li discloses directly encoding the electronic document with at least some of said text information at col. 8 lines 10-15.

With regard to **claim 15** Li discloses storing the text information in a data repository and wherein the digital watermark associates the electronic document with said information in the data repository at col. 9 lines 7-16.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Venkatesan et al. (hereinafter, "Venkatesan") (US 6,801,999).

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With regard to **claim 17** Li discloses the output comprising a hardcopy page as disclosed above in claims 16 and 18 and the arguments are not repeated herein, but are incorporated by reference. Li does not expressly disclose having a watermark that serves as a pointer to a memory location in which said recognized text is stored. Venkatesan discloses this at col. 13 lines 30-36. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Venkatesan with Li. The motivation for doing so is to define a plurality of specific locations as suggested by Venkatesan at col. 13 lines 44-48. Therefore, it would have been obvious to combine Venkatesan with Li to obtain the invention as specified in claim 17.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alves (US 6,747,687) in view of Li et al. (hereinafter, "Li") (US 5,506,697) as applied to claims 8-9, 22 and 24 above, and further in view of Conover et al. (US 6,373,960) (hereinafter, "Conover").

With regard to **claim 25** Alves (modified by Li) discloses a method of augmenting image data collected by a security camera (Figure 1, col. 5 lines 57 to col. 6 lines 1-2) and the arguments are not repeated herein, but are incorporated by reference. Neither Alves nor Li expressly disclose digital watermark being essentially imperceptible to human viewers of image data. Conover discloses inserting to the compressed data a digital watermark that is imperceptible at col. 5 lines 30-32 and its respective portions in the specification. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Conover with Alves and Li. The motivation for doing so is that the watermark will be invisible to the human eye unless the compressed portion (or an image) is decompressed as suggested by Conover. Especially, the compressed coded symbol 45 of Li (at col. 7 lines 48-51) can be imperceptible when the image is being printed to protected from a unauthorized person. Therefore, it would have been obvious to combine Conover with Alves and Li to obtain the invention as specified in claim 25.

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(10) Response to Argument

The examiner summarizes the various points raised by the Appellant and addresses them individually.

(A). “Watermark” Limitation in Claims

Appellant argues that Federal Circuit of *In re Johnson* requires that the Examiner give claim terms the meanings imparted by applicant’s specification, rather than other possible meanings. Error occurred in this case by the Examiner’s construction of “watermark” to read on the bar code. The incorporated-by-reference document (USPN 6,614,914) makes clear that one of the attributes of a watermark is that it is essentially imperceptible.

Examiner’s response:

Appellant states the portions from the incorporated-by-reference (USPN 6,614,914) in the Brief. However, this portion of the reference does not explicitly appear in the specification. As the examiner has stated that the clear explicit definition of “watermark” does not appear in the preferred embodiment (in present application). Therefore, the examiner is interpreting the “watermark” as broad as possible – as allowed by the MPEP 2111.

(B). Discussion of Li

Appellant argues that Li does not involve digital watermarking... When the claims are given their proper interpretation; Li’s barcode meets none of these limitations. For this reason – as well as others – each of the rejections fails.

Examiner’s response:

The examiner is assuming that the Appellant refers to claim 8 when speaking of digital watermarking. Li discloses this throughout the invention as the symbol code 45 (Figure 3) is transmitted via fax and read by a computer. This is then decoded and scanned. The embedded information at element 56b is digital as it is transmitted to the computer. Encoded symbol 45 includes data for

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controlling dissemination of all or portions of the content of original document 40 as disclosed by Li at col. 8 lines 19-21. Symbol 45 may include control data specifying a limited number of facsimile transmissions of document 50, a time limit for such transmissions, a list of those authorized to receive such transmission, etc. This information is clearly hidden in the symbol 45. Also, Li discloses altering the output from apparatus to encode watermark at col. 9 lines 12-34. Because of these reasons the examiner believes that Li discloses “encoding a watermark in said image”(claim 3); “digitally watermarking said image data”(Claim 8); “Digitally watermarking said electronic document”(Claim 8); and “a watermarker that alters an output from said apparatus to encode a watermark therein”(claim 16).

(C). Claim 3 (§ 102:Li)

Appellant argues the bar code taught by Li would not be understood by an artisan as a watermark. (The Examiner concedes Li's element 45 is perceptible). An artisan following Li's teaching would be left with a document bearing an unsightly pattern of black and white lines - detracting from the document's original quality. (See document 20 in Li's Fig. 1.) That is the antithesis of a watermark. The Examiner is correct that he should interpret the claim language as broadly as possible. But he may not construe it in a manner contrary to its meaning given by the specification. That violates the Federal Circuit's guidance. And that is what has been done here. Since Li fails to teach a watermark, it cannot anticipate Appellant's claims requiring a watermark.

Examiner's response:

The examiner disagrees because she did not construe the definition of watermark in a manner contrary to its meaning given by the specification. The examiner merely trying to point out (as discussed above in point (A)) that “watermark” is not defined explicitly in the present invention. Yes it is incorporated by reference – and that is why the examiner has given its broadest interpretation possible.

(D). Claim 16 (§ 102:Li)

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Appellant argues stating, "Li does not disclose a "watermarker." Li teaches encoding a conspicuous barcode.

Examiner's response:

Please see the response above in point (A) and (C).

(E). Claim 17 (§ 103: Li + Venkatesan)

Appellant argues that only through hindsight would an artisan seek to modify the FAX technology of Li to incorporate teachings from the BORE-resistant disclosure of Venkatesan...The offered rationale is not sufficient. Rather than evidence obviousness, it betrays impermissible application of hindsight. Obviousness is not thereby established.

Examiner's response:

The examiner did not make the rejection in combination of Li with Venkatesan through hindsight. Li discloses the output as a hardcopy page (printed by the printer and/or fax seen in Figures 1 and 3). Li further discloses memory location 26f and the computer 62. What Li does not explicitly teach is having the watermark serve as a pointer to a memory. Venkatesan overcomes this by teaching this limitation at col. 13 lines 30-51 and also discloses a motivation to do this by stating "the WA (watermarking authority) then embeds the watermark n times, each beginning at a starting location determined by a corresponding different one of the n keys, throughout the object in order to yield the watermarked object." (emphasis added by the examiner). This does suggest of defining plurality of specific locations and therefore obvious.

(F). Claim 8 (§ 103: Alves + Li)

Appellant alleges that one reason the rejection must be reversed is the Office's erroneous interpretation of Li's barcode as fulfilling the "digitally watermarking said image data" claim limitation. As noted, Li does not so teach. Thus, even if the references were combined as proposed, the claimed combination could not result. A second reason the rejection must be reversed is because the art does not

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suggest the claimed combination. The Office's assertion otherwise draws impermissibly on hindsight reconstruction.

Examiner's response:

Alves in combination with Li teaches all of the limitations recited in Claim 8. Alves discloses security camera, which collects augmenting image of a vehicle (col. 5 line 57 to col. 6 lines 1-2). The image that is collected has text information – such as – license plate number style, etc. This image (along with text) – elements 202, 210 in Figure 2 is interpreted the same as document image 20 and 40 of Li. This is why the combination of these two references meets the limitations – to verify the image (document) by encoding the element 45 into document 50 (in Li) and encoding time stamp (elements 210, 234 in Figure 2), license plate in the image of the vehicle (in Alves).

(G). Claim 9 (§ 103: Alves + Li)

Appellant argues stating: “Alves notes that the vehicle images captured by his system may include part or all of license plates. However, he explains that the imaged license plate information can be of no consequence:... Indeed Alves touts, as an advantage of his invention, that it "does not require the license plates to be readable." Moreover, in cases where the license plate is visible in one of Alves' images, he stresses, "The matcher never explicitly "reads" the license plate." Notwithstanding these contrary teachings in the primary reference, the Final Rejection urges that text information from a license plate be "analyzed" (per independent claim 8).”

Examiner's response:

Alves does teach limitation of claim 9. The image does depict of a vehicle license plate and the text information comprises text on said license plate as disclosed at col. 4 lines 51-53. Yes, the examiner agrees that the matcher never explicitly “reads” the license plate. However, it incorporates the visual characteristics of the plate, as well as other parts of the vehicle into each vehicle detection tag.

(H). Claim 22 (§ 103: Alves + Li)

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Appellant states that the office provided no rationale as to why such a teaching would be drawn from Li, and applied to modify Alves.

Examiner's response:

Claim 22 depends on claim 8. Because there were motivation and reasons to combine were provided in claim 8 there were no other reasons to for claim 22. Li disclosed the limitation of having a storing device for data repository – claim 8 stated how Li disclosed digital watermarking image data (thru a computer – which inherently includes a storing device, a memory).

(I). Claim 25 (§ 103: Alves + Li + Conover)

Appellant argue that the Office admits that neither Li nor Alves teaches any watermark that is "essentially imperceptible to human views of image data." The tertiary reference, Conover, teaches a technique for digitally watermarking compressed domain video. Its encoding of data is essentially imperceptible to human viewers. Why would an artisan be motivated to alter Alves' parking lot vehicle-matching technology - - as earlier modified by Li's FAX technology - - to incorporate compressed domain video digital watermarking technology?...The meaning of this rationale is not apparent. Again, it appears to comprise a labored piecing-together of disparate elements from unrelated art, augmented by the Examiner's own hindsight (e.g., the reference to 'protected from an unauthorized person').

Examiner's response:

Conover discloses an object of the present invention is to apply a watermark to compressed digital data (note the compressed encoded data in Li) that appears imperceptible (Li's is perceptible) but detectable in digital data decompressed therefrom. Because Li's watermark can be perceptible Conover's reference is brought here for the combination. This is the same as Alves, because the license plate from a security monitoring camera is incorporated only for the visual characteristics – this can be perceptible also. Because of these reasons the three references were combined to overcome the limitation of claim 25.

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(J). Claim 10 (§ 103 Sites + Li)

Appellant alleges that Sites is an Adobe patent concerning the OCR capability of its Acrobat program, by which words within a scanned document can be recognized and made searchable. The Action concedes that Sites does not teach any digital watermarking; Li is cited to redress this shortcoming. As noted above, Li does not teach any digital watermarking either. He adopts an opposite marking technology - the overt, conspicuous 2D barcode.

Examiner's response:

Please see the response above with regards to digital watermark and Li's reference at points (A) and (B).

Appellant further alleges a second reason the rejection of claim 10 should be reversed is the inadequate rationale offered in support of the proposed combination of elements from Sites and Li... Again, this is hindsight. Neither Sites nor Li teaches "authenticating" anything.

Examiner's response:

Please see the response above with regards to "authenticating" in point (F).

(K). Conclusion

Claims 3-5, 8-20 and 22-25 stand rejected.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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Conclusion

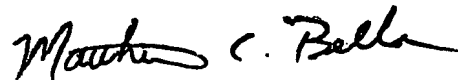
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Shefali D Goradia (Patel)

Conferees:


Matt Bella (SPE) _____



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